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SUBJECT: SHANGHAI PROMOTING ENERGY EFFICIENCY AND RENEWABLE ENERGY RESOURCES

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11. (SBU) SUMMARY: To meet Shanghai's energy demands and ambitious Central Government-mandated energy consumption reduction targets, Shanghai officials are working hard to adjust the city's energy mix by reducing its reliance on coal through the use of environmentally-friendly resources and improving energy conservation and efficiency, especially in the industrial sector. Shanghai is hoping to change the mindset of its citizens to be more energy conscious and is developing several renewable energy resources, including wind, solar, and biomass. The current economic downturn has had little impact on the city's long-term plans for renewable energy, and Shanghai hopes to spur economic growth through "green recovery" -- new energy and environmental-related projects, including alternative energy vehicles. Officials cited the high cost of technology as a barrier to promoting renewable energy use and encouraged more Sino-U.S. cooperation in that regard. END SUMMARY.

12. (SBU) During a visit to Shanghai in early April, Embassy Minister-Counselor for Economic Affairs Luke accompanied by Congenoffs met with GAO Yun, Deputy Director of the Shanghai Economic and Information Technology Commission, to discuss Shanghai's plans for renewable energy development, energy conservation, and the impact of the global economic downturn on these plans. Congenoffs also met previously with ZHOU Ya, Chief Economist, Shanghai Development and Reform Commission (SDRC) and GAN Zhongze, Chairman, Urban Planning and Environmental Protection Committee, Shanghai Municipal Peoples Congress (SMPC) to discuss Shanghai's energy strategies.

Decreasing Coal Dependency - Conservation and Efficiency Are Key

13. (SBU) Shanghai officials noted that the city is working hard to adjust the city's energy mix by reducing its reliance on coal, which accounts for over 50 percent of the city's energy sources. SDRC's Zhou Ya said that Shanghai's total energy consumption in 2008 was 97 million tons of coal equivalent (TCE) with per capita consumption equaling 5.3 TCE, more than twice the national average. All of our interlocutors emphasized that Shanghai has to be creative in developing environmentally-friendly resources, while improving energy conservation and energy efficiency to meet not only the

ambitious energy consumption reduction targets mandated by the Central Government, but also the city's ever increasing energy needs. The Economic Commission's Gao Yun said that Shanghai has thus far achieved its goal announced in 2005 of reducing its energy intensity (energy consumption per 10,000 RMB of GDP) by four percent every year for a targeted total of 20 percent by 2010.

14. (SBU) Gao said that Shanghai's energy consumption breaks down as follows: 10 percent personal consumption, 30 percent service sector, and 60 percent industrial sector. As industrial consumption accounts for the majority of Shanghai's total energy usage, Gao stressed that more attention is being placed on energy conservation and efficiency in that area. Industry players are required to assess their energy efficiency using benchmarks established by industry leaders, and companies may be forced to move out of Shanghai if they fail to meet the benchmark requirements. More broadly, Shanghai is also accelerating the process of energy conservation through the promotion of new conservation technologies. Gao said Shanghai aims to slow the energy consumption growth rate from the 7-8 percent annual growth of recent years.

15. (SBU) While technology innovations and stronger conservation measures for the industrial sector are key requirements, SMPC's Gan believed that changing the mindset of Shanghai's citizens would be the paramount task. He said that Shanghai residents must increase their "social responsibility" by buying smaller cars, using more public transportation, and otherwise reducing personal energy consumption. Shanghai's hosting of the 2010 World Expo, with a green theme of "Better City, Better Life" will be a prime opportunity to raise public awareness of energy conservation and environmental protection, said Gan.

Shanghai to Pursue Multiple Renewable Sources

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16. (SBU) According to Gao, there is no "best fit" for the city's development of renewable resources. Shanghai has to develop multiple resources to meet future energy needs, including wind, solar and biomass. Gao explained that although Shanghai can often meet its wind power generation goal in the winter, its wind power is generally inadequate in the summer except when a typhoon draws near. Shanghai is trying to take advantage of offshore wind by constructing China's first offshore wind farm along the 22-kilometer Dong Hai Bridge that links Shanghai's Pudong District with Shanghai's offshore Yangshan Deepwater Port. This offshore wind farm has a planned capacity of 100,000 kilowatts with the capacity of each stand-alone windmill reaching three megawatts. Construction has already begun, and the project is expected to be completed in 2012. Compared to traditional onshore wind farms, offshore farms require greater investment and more advanced technology. However, they do not take up land and can provide more abundant wind power. Gao also mentioned city plans for wind farms on Chong Ming Island and Chang Xing Island in the mouth of the Yangtze River.

17. (SBU) Regarding solar power, Gao explained the different usage of solar thermal energy (STE) and photovoltaics (PV). STE converts solar energy into heat, and is mostly used in buildings. According to Gao, STE traditionally is better suited for low buildings. Now with the advent of more advanced technology, balcony rails may be designed to absorb solar energy and convert it into heat. This could have a significant impact if widely adopted, said Gao. Photovoltaics, unlike STE, convert solar energy directly into electricity. Given Shanghai's high number of cloudy and rainy days, the cost of producing electricity directly from solar energy is still very high. This technology is still in its testing phase and requires government support, said Gao.

18. (SBU) Shanghai is also looking at biomass as a potential source of renewable energy. Shanghai currently generates 6,000

tons of garbage daily, so the potential is quite large. According to Gao, Shanghai has already set up some small-scale biomass power generation facilities, but large-scale ones are still under design.

Financial Crisis Will Not Impact Long-term Energy Plan

¶19. (SBU) Even though Shanghai's economy has been impacted by the global economic downturn, the city will continue developing renewable energy, improving energy efficiency, and encouraging energy conservation, asserted Gao. Shanghai will invest more in solar and wind power, as well as further develop and deploy alternative energy vehicles. He touted Shanghai GM (a joint-venture between Shanghai Automotive Industry Corporation (SAIC) and General Motors) that has developed such vehicles. This, together with other new energy and environmental-related projects, will spur Shanghai's future economic growth, a "green recovery," said Gao.

Preferential Tax Policy for Hybrids

¶10. (SBU) According to Gao, the Shanghai Municipal Government will soon release a new preferential tax policy for hybrid car purchases. Any hybrid car with a gasoline savings rate over 15 percent will qualify. In China, currently, only Changchun Toyota (a joint-venture between China's First Automotive Works in Jilin and Toyota) and Shanghai GM produce cars that meet the 15 percent gasoline savings threshold. By 2012, new energy vehicles are expected to account for 5 percent of the total number of vehicles in China, said Gao.

High Cost Still an Obstacle to New Technologies

¶11. (SBU) Gao believes that cost is still the main obstacle in promoting renewable energy. Shanghai is interested in new innovations such as General Electric's clean coal technology, but the cost is too high. Similarly, Applied Materials supplies

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equipment to manufacture thin-film PV batteries. Even though the cost to make a PV battery is only half the cost of making a traditional silicon crystal PV battery, the manufacturing equipment made by Applied Materials is still very expensive, costing USD 85 million each, according to Gao. Gao encouraged more Sino-U.S. cooperation in developing renewable energy and energy efficiency technology in order to lower the cost of such equipment.

¶12. (U) Embassy EconMinCouns cleared a draft of this report.
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